

Surface Mount TO-8 Cascadable Amplifier 20 to 2700 MHz

Rev. V2

Features

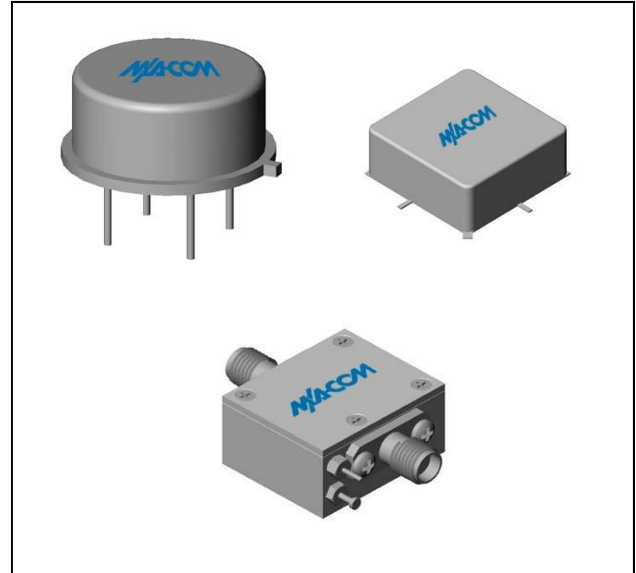
- LOW NOISE FIGURE: 2.5 dB (TYP.)
- OUTPUT POWER: +27 dBm (TYP.)
- HIGH THIRD ORDER IP: +40.0 dBm (TYP.)

Description

The MAAM-007501-SA2002 amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

This single stage PHEMT feedback amplifier design displays impressive performance over a broadband frequency range. The design also incorporates the use of an impedance transformer, and an RF choke is used for power supply decoupling. The Surface Mount package is hermetically sealed, and MIL-STD-883 environmental screening is available.

Product Image



Ordering Information

Part Number	Package
MAAM-007501-0A2002	TO-8
MAAM-007501-SA2002	Surface Mount
MAAM-007501-CA2002	SMA Connectorized **

** The connectorized version is not RoHs compliant.

Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +9 V_{DC}$

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-40° to +85°C*
Frequency	MHz	20-2700	20-2700	20-2700
Small Signal Gain (min)	dB	11.5	10.0	9.5
Gain Flatness (max)	dB	+/- 0.4	+/- 0.7	+/- 1.0
Noise Figure (max)	dB	2.5	4.0	5.0
Power Output @ 1 dB comp. (min)	dBm	+27.0	+25.0	+23.5
IP3	dBm	+40.0		
IP2	dBm	+55.0		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.7:1 / 1.7:1	2.0:1 / 2.0:1
DC Current @ 9 Volts (max)	mA	165	195	225

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+85°C
DC Voltage	+12 V
Continuous Input Power	+17 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 μ sec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+85°C

Thermal Data: $V_{CC} = +9 V_{DC}$

Parameter	Rating
Thermal Resistance θ_{jc}	+51°C/W
Transistor Power Dissipation P_d	1.2 W
Junction Temperature Rise Above Case T_{jc}	+61°C

* Over temperature performance limits for part number MAAM-007501-CA2002, guaranteed from 0°C to +50°C only.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

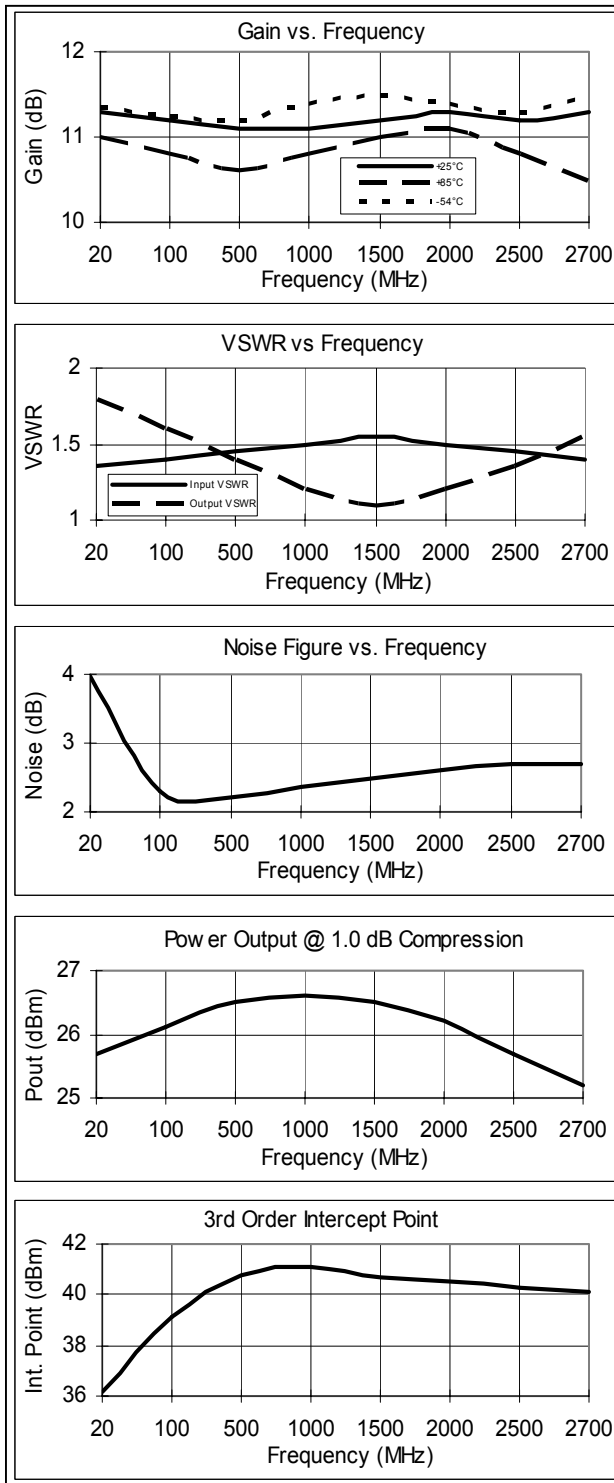
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 • **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
 Visit www.macomtech.com for additional data sheets and product information.

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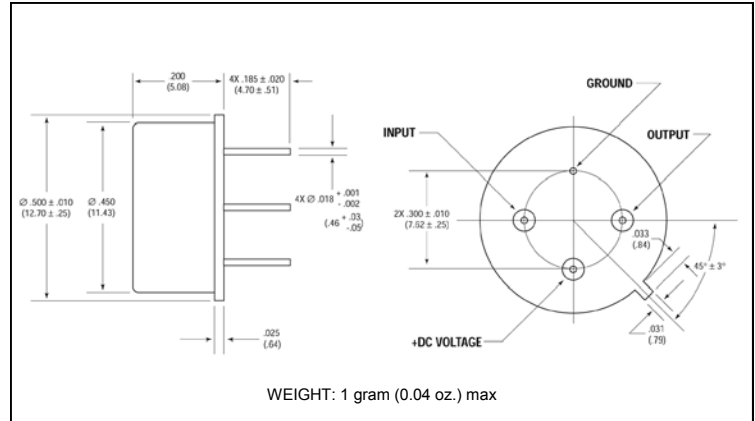
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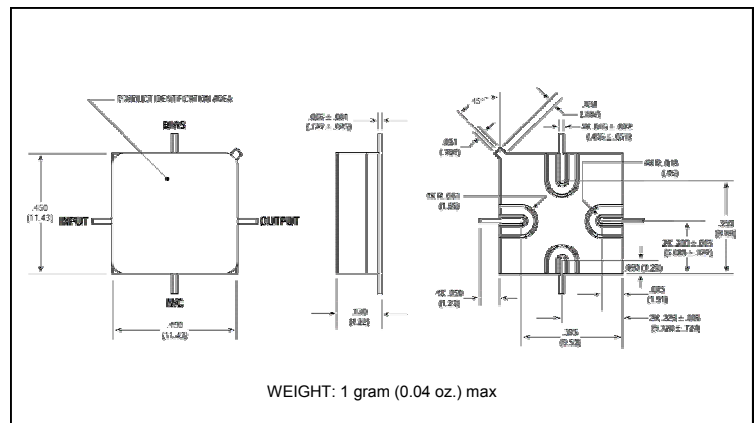
Typical Performance Curves at +25°C



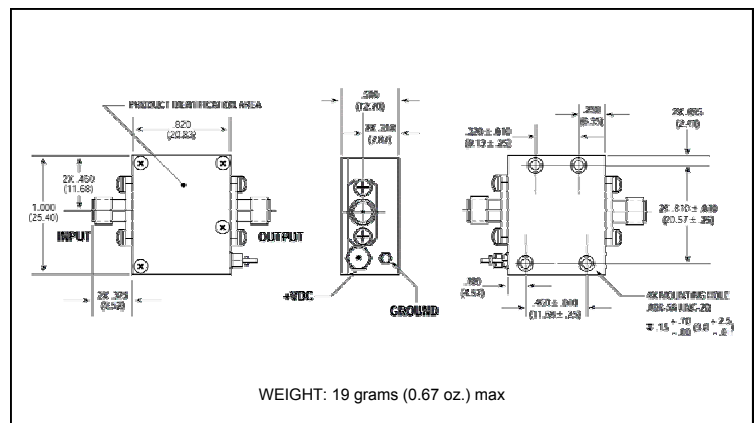
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.